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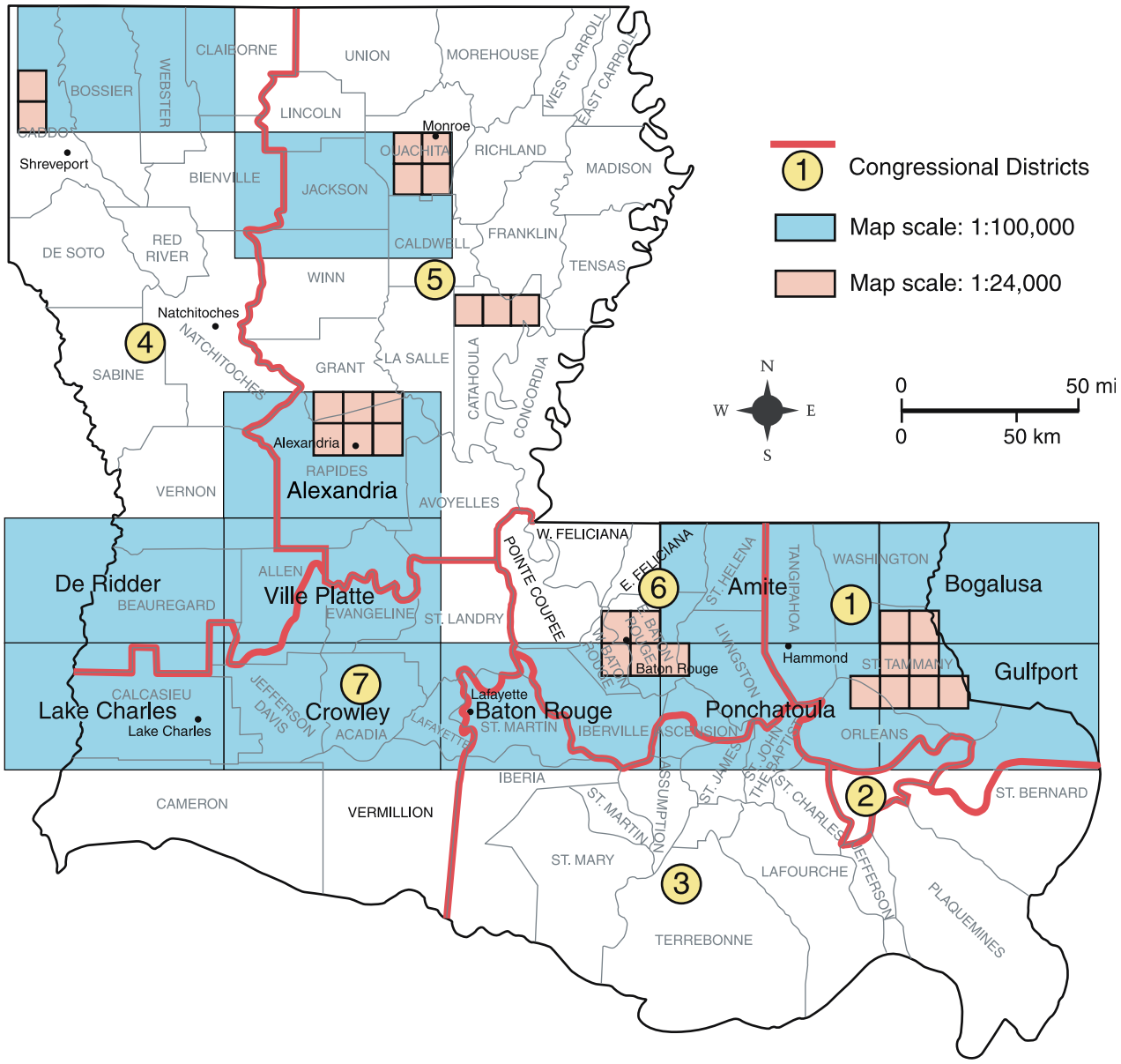
# National Cooperative Geologic Mapping Program

STATEMAP Component: States compete for federal matching funds for geologic mapping

## LOUISIANA




## STATEMAP Quadrangles 1993 - Present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National Cooperative Geologic Mapping Program

# LOUISIANA

Cooperative agreements between the USGS and LGS under the STATEMAP program have driven the bulk of the geologic mapping conducted in the state since the program's inception. STATEMAP projects have permitted LGS to complete initial compilation of new, intermediate-scale coverage of the state's upland landscapes and alluvial bottoms above the coastal zone, and to follow this with a program of large-scale mapping of selected 7.5-minute quadrangles. The NCGMP-supported geologic mapping in Louisiana has a multitude of uses of importance to many timely issues. The mapping generates basic geologic data that in urbanized and rapidly urbanizing areas are essential to planners, and in more rural settings are essential to ongoing maintenance and preservation efforts in wildlife-management areas and national forests.

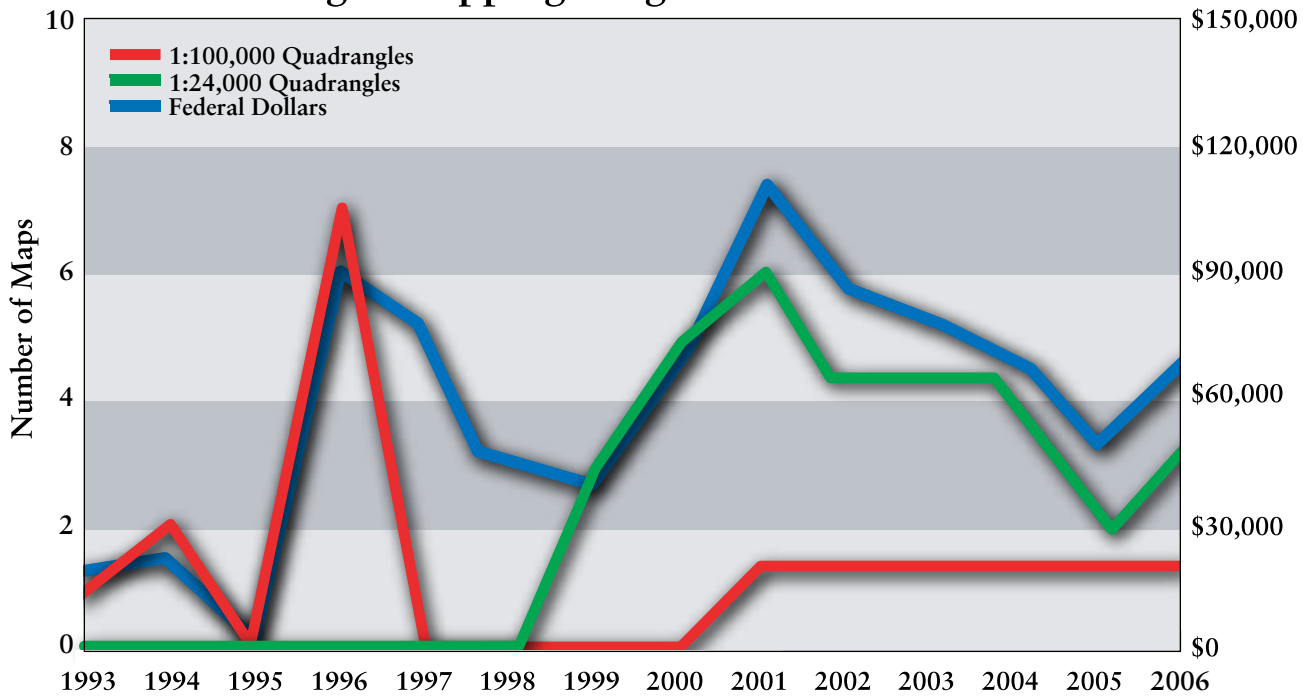
The availability of up-to-date geologic maps has myriad economic implications in Louisiana as in other areas. Geologic maps are invaluable in the effort to rationally plan the permitting of activities in the coastal zone in ways that minimize the threat of land loss. They are also essential to the proper siting of waste-treatment facilities relative to the recharge zones of aquifers that are important sources of drinking water (such as for the surface unit corresponding to the outcrop of the uppermost portion of the Chicot aquifer, which is the principal source of ground water for 13 parishes in southwestern Louisiana and historically has been a favored setting for the siting of solid-waste repositories). Increasingly detailed renderings of active, but apparently non-earthquake-producing, surface faults of the south Louisiana coastal plain on new geologic maps provide a framework for assessment of fault-related damage potential and damage-reduction strategies.

Examples of favorable economic outcomes made possible by the availability of current geologic maps in Louisiana include projects conducted in the areas encompassing two oil and gas fields in the south-central part of the state by a Baton Rouge petroleum engineering and geology consulting firm. In both the Bayou Henry field, in the Baton Rouge 30 x 60 Minute quadrangle, and in the Port Barre field, in the Ville Platte 30 x 60 Minute quadrangle, a general scarcity of well log information at shallow depths was an obstacle to conducting the work. The firm utilized 1:100,000-scale lithographs originally compiled with STATEMAP support to interpret aspects of the shallow-subsurface geology and apply them to an evaluation of the potential for contamination of shallow groundwater. The lithographs established the surface geologic units and their distributions, which enabled the tying of these surface interpretations with the limited available shallow-subsurface information for both areas. For both projects, the integration of these two sources of information into a sensible and detailed interpretive geologic framework proved essential to the cost-efficient conduct of the work.

There can be little doubt that basic geologic information of the kind presented on geologic maps will figure prominently in the addressing of a host of environmental issues of increasing importance in the state in years to come.

[1]Heinrich, P. V., and W. J. Autin (compilers), 2000, Baton Rouge 30 x 60 Minute Geologic Quadrangle: Louisiana Geological Survey, Baton Rouge, Scale 1:100,000; Snead, J., P. Heinrich, and R. P. McCulloh (compilers), 2002, Ville Platte 30 x 60 Minute Geologic Quadrangle: Louisiana Geological Survey, Baton Rouge, Scale 1:100,000.

## Summary of STATEMAP Geologic Mapping Program in Louisiana




Louisiana quadrangles geologically mapped with support of STATEMAP component of National Cooperative Geological Mapping Program (NCGMP).

The graph of LGS geologic mapping activities conducted as part of the NCGMP shows the importance of the program to geologic mapping efforts in the state. To date, LGS has published eight 1:100,000-scale geologic quadrangles as cartographic products for sale to the public.

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